

## **Structural and metamorphic history of the Highland Series at the Highland Series / E. Vijayan boundary**

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The tectono-metamorphic history of the eastern part of the Highland Series can be characterized by the events listed below.

- First flattening and stretching in N-S direction under granulite facies conditions, analogous to the central part of the Highland Series. Two pyroxene pairs and garnet-clinopyroxene parageneses yield temperatures around 750° C and pressure of about 8 kb.
- Locally isoclinal folds with axes parallel to the stretching direction and sub-horizontal axial planes were found (still granulite facies).
- Intense migmatization in a 15-20 km-broad border zone of the Highland Series.
- Flattening, stretching and folding of the migmatite assemblage in a solid state. Still the same stretching direction. Development of an axial plane cleavage. Amphibolite-facies metamorphism (temperature around 600° C from garnet-biotite pairs).
- This deformation increases considerably in approaching the eastern boundary, i.e., flattening and stretching increase, folds get more tight to isoclinal and their axial planes rotate to the east into a sub-horizontal position. The stretching direction is still N-S. Thus, relative movements between Highland Series and (east) Vijayan must follow this direction. E-directed thrusting can be excluded.
- Less intense migmatization in late stages of the formation of these folds.
- Intrusion of pegmatites and subsequent deformation during continued compression normal to the axial plane of the folds.
- Static annealing following deformation.